

SERVICE BULLETIN

NUMBER: SB 500-57-004
MODEL: Eclipse EA500
SUBJECT: Fuel System - Electrical Bonding Verification – Wing Station 185

1. Planning Information

A. Effectivity

Aircraft Model EA500, Serial Numbers 000001 through 000004, and 000006 through 000010.

B. Reason

EAC Quality Assurance discovered improper electrical bonding between the wing rib at Wing Station 185 and the fuel vent line fitting at that station on some aircraft.

The Electrical Bonding Repair returns the aircraft to the original Type Design configuration.

C. Compliance

(1) Eclipse Aviation Corporation considers this to be a mandatory inspection.

(2) The aircraft located on the premises of Eclipse Aviation Corporation **must** comply with the “Electrical Bonding Verification” part of this SB before any further flight operations.

(3) The aircraft away from the premises of Eclipse Aviation Corporation **must** comply with the “Electrical Bonding Verification” part of this SB within five flight hours from receipt of this SB.

(4) The aircraft failing the “Electrical Bonding Verification” part of this SB **must** comply with the “Electrical Bonding Repair” part of this SB within five flight hours from receipt of this SB.

(5) The aircraft meeting the criteria of the “Electrical Bonding Verification” part of this SB **must** comply with the “Electrical Bonding Repair” part of this SB within 100 flight hours or one calendar year, whichever comes first.

(6) Accomplishment of the “Electrical Bonding Repair” part of this SB returns the aircraft to the original Type Design configuration and terminates all action from this SB.

D. Approval

This Service Bulletin is based on engineering data that is FAA-approved, and the modification herein complies with the applicable regulations.

E. References

Aircraft Maintenance Manual (AMM) PN 06-117751, latest revision

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2. Material Information

A. **Materials**

The following drawings are required for this Service Bulletin.

Part Number	Description	Qty Required
28-105433 latest Rev	EAC Drawing Instl, Fuel System – Wing, LH	One each
28-105434 latest Rev	EAC Drawing Instl, Fuel System – Wing, RH	One each

B. **Tooling**

The following special equipment (or its equivalent) is required to accomplish this Service Bulletin.

Nomenclature	Part Number	Use
ExTech Milliohm Meter	Model 380460	Electrical Bond Meter

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3. Accomplishment Instructions

A. Procedure for Electrical Bonding Verification:

- (1) Fuel System – Make Safe for Maintenance per AMM-28-00-00-051-921-001 (No Complete Defuel required, defuel each wing to a maximum of 170 lbs per side).
- (2) Starting with the Left Hand (LH) Wing, remove lower wing access panel P/N 57-112033-1002 outboard of Wing Station 185 and lower wing access panel P/N 57-111195-1002 inboard of Wing Station 185.
- (3) Measure the electrical bonding resistance between the fuel vent fitting at Wing Station 185 and the wing structure.
- (4) Record the measured resistance in the appropriate location on the Compliance Record Form in this SB.
- (5) Repeat Steps (2) and (3) for the Right Hand (RH) Wing (Symmetrical).
- (6) **If the measured and recorded** electrical bonding resistances **are** less than 10 milliohms, the aircraft may be returned to service **under the restrictions of Para. 1.C (5) Compliance.**
- (7) Re-install panels removed in step 3.A(2).
- (8) Return to service:
 - a. Fill the right and left wings with Jet A fuel (per AMM – 12-10-01 – FUEL SERVICING)
 - b. Check for leaks around areas where components were removed and reinstalled (Wing Access Panels)
 - c. If all other maintenance is complete, return aircraft to service. Refer to AMM – 20-00-02 – RETURN TO SERVICE (AFTER MAINTENANCE).
- (9) **If the measured and recorded** electrical bonding resistances are more than 10 milliohms, the aircraft must be repaired as described in Para. 3.B “Procedure for Electrical Bonding Repair” below.

B. Procedure for Electrical Bonding Repair

- (1) Steps A(1) through A(5) have been performed.
- (2) Disconnect fuel vent lines 28-112528-1001 attached to bulkhead fitting outbd and 28-110350-1002 inbd for LH wing.
- (3) It is acceptable to disconnect any support clamps holding the vent lines in order to swing them out of the way.
- (4) Remove jam nut AS5178D08 and washer NAS1149D1232J from outbd side of bulkhead fitting.
- (5) Remove bulkhead fitting 90-112078-8D from rib.

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- (6) On both outbd and inbd faces of WS 185 rib remove paint and primer to bare metal in an area approximately .20 beyond circumference of washer and hex fitting.
- (7) Clean area per EAC P1005 and alodine per EAC P1008.
- (8) Re-install 90-112078-8D bulkhead fitting, NAS1149D1232J washer and AS5178D08 jam nut to fitting and torque per EAC P1017.
- (9) Re-install fuel vent tubes 28-112528-1002 and 28-110350-1001 for LH or 28-112530-1001 and 28-110360-1002 for RH. Torque all nuts per EAC P1017
- (10) Re-attach any support clamps that were disconnected from tubes.
- (11) Measure electrical bond resistance between vent tube and structure. Resistance must be less than 10 milliohm.
- (12) Re-install wing panels removed in step 3.A(2).
- (13) Return to service:
 - a. Fill the right and left wings with Jet A fuel (per AMM – 12-10-01 – FUEL SERVICING)
 - b. Check for leaks around areas where components were removed and reinstalled (Wing Access Panels)
 - c. If all other maintenance is complete, return aircraft to service. Refer to AMM – 20-00-02 – RETURN TO SERVICE (AFTER MAINTENANCE).

C. Cost

Parts (if required) and Labor will be supplied at no charge to the aircraft owner by Eclipse Aviation Corporation when this SB is accomplished at and by the Eclipse Aviation Service Center.

4. Record of Compliance

Upon completion of this Service Bulletin, make an appropriate maintenance-record entry specifying the Service Bulletin number.

5. Notifying Eclipse Aviation

On completing this service bulletin, the operator/maintainer shall complete the attached *Compliance Record* and send it to Eclipse Aviation via regular mail, fax, or e-mail.

Mailing Address: Eclipse Aviation Corporation
ATTN: Customer Care
2503 Clark Carr Loop SE
Albuquerque, NM 87106

Fax: 1-505-241-8802

E-mail: customercare@EclipseAviation.com

SERVICE BULLETIN COMPLIANCE RECORD

SB 500-57-004: Fuel System - Electrical Bonding Verification – Wing Station 185

MODEL _____ AIRPLANE S/N _____ REG. NO. _____ TOTAL TIME _____ (Hours)

OWNER NAME: _____

ADDRESS: _____

TELEPHONE NO. () _____ FAX NO. () _____

COMPLIANCE WITH SB 500-57-004

Description of Work Performed

(Inspection | Modification | Repair | Option Installation | Defect or Damage Found, if applicable)

ELECTRICAL BONDING VERIFICATION: _____

ELECTRICAL BONDING RESISTANCE, LH WING: _____

ELECTRICAL BONDING RESISTANCE, RH WING: _____

ELECTRICAL BONDING REPAIR: _____

DONE ON LH WING: _____

DONE ON RH WING: _____

DATE _____

WORK PERFORMED BY _____ (Printed)

_____ (Signature)

COMPANY _____

ADDRESS _____

TELEPHONE _____ FAX _____